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# Prevention of adhesion bands by ibuprofen-loaded PLGA nanofibers

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**Abstract**

In this study, prevention of the adhesion bands and inflammatory features has been investigated using poly (lactic-co-glycolic acid)-ibuprofen (PLGA-IB) nanofibrous meshes in a mice model. In order to find the optimized membrane for prevention of postoperative adhesion bands, we have compared PLGA-IB group with PLGA, IB and control groups in a mice adhesion model. Two scoring adhesion systems were used to represent the outcome. According to the results obtained in this study, the PLGA-IB nanofiber membrane showed a greater reduction in adhesion band than other groups. In conclusion, among FDA-approved polymers and drugs, PLGA-IB meshes could be applicable as a potential candidate for prevention of post-operative abdominal inflammation and adhesion bands formation.

**Key Words**: intra-peritoneal adhesion; poly (lactic-co-glycolic acid) (PLGA); ibuprofen